

ABSTRACT

A bit error rate of the reception signal is detected on the reception side, such that an n optimal modulation method and LO output power are determined in accordance with this bit error rate, and an LO output changing instruction is sent to an image signal rejection mixer on the transmission side. The image signal rejection mixer changes the phase $X = \alpha + \gamma$ in response to the LO output changing instruction when power splitter (201) splits the LO into two components with equal amplitude and phase difference α , power splitter (202) splits the IF signal into two components with equal amplitude and phase difference β , and power combiner (205) combines RF signals with equal amplitude and phase difference γ . By changing the X , the LO output power is controlled and the back-off amount of a transmission amplifier is changed in accordance with an optimal modulation scheme. In this event, $\alpha - \beta + \gamma = 2n\pi$ (n is an integer) is set so as to maximize the image signal rejection amount.